

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

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SCANSOFT, INC.,

Plaintiff

v.

VOICE SIGNAL TECHNOLOGIES, INC.,  
LAURENCE S. GILLICK, ROBERT S.  
ROTH, JONATHAN P. YAMRON, and  
MANFRED G. GRABHERR,

Defendants

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C.A. No. 04-10353-PBS

**SCANSOFT'S *MARKMAN* BRIEF  
ON CLAIM CONSTRUCTION  
OF UNITED STATES PATENT NO. 6,501,966**

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**TABLE OF CONTENTS**

INTRODUCTION .....1

THE CLAIM CONSTRUCTION DISPUTE.....2

THE ASSERTED PATENT CLAIMS .....3

THE HISTORY OF THE ‘966 PATENT .....5

THE PATENT SPECIFICATION .....6

PROPOSED CLAIM CONSTRUCTION .....6

ARGUMENT .....8

I. THE VOICE RECOGNIZER MAY BE LOCATED IN THE MOBILE PHONE .....9

    A. The Claim Wording Permits the Voice Recognizer to Be Located  
        Anywhere.....10

        1. The Claim is Silent on the Location of the Voice  
            Recognizer .....10

        2. Words of Location, Seen in Other Claims, Cannot Be Read into  
            Claim 1.....12

    B. The Specification Does Not Restrict Location of the Voice Recognizer .....13

    C. The Prosecution History Shows that the PTO Examiner Interpreted Claim 1 to  
        Allow Placing the Voice Recognizer in the Mobile Phone .....15

II. “COMMAND” INCLUDES ANY COMBINATION OF WORDS OR  
NUMBERS .....17

III. THE CLAIMED METHOD INCLUDES “SMART DIALING” .....19

## INTRODUCTION

ScanSoft is the assignee of United States Patent No. 6,501,966. (“the ‘966 patent”). The ‘966 patent is directed to certain speech recognition methods and systems adapted for use in mobile telecommunications networks. The patented systems preferably recognize “spoken commands . . . for the directing of telephone calls based on spoken commands.” **Exh. 1**, ‘966 patent, Col. 1, *ll.* 15-20.<sup>1</sup> That is, the ‘966 patent is directed to methods and systems used for a particular speech recognition application known as “VAD,” or Voice Activated Dialing. Thus, one embodiment of the claims “facilitates the implementation of voice-dialing in a cellular telephone or other personal communications network environment.” *Id.*, Col. 5 at *ll.* 42-44.

VAD allows telephone users to dial phone numbers through voice commands. In effect, a user’s spoken words are translated into digital signals for controlling computer functions. The spoken words substitute for manually tapping the keypad of a cell phone. One advantage of VAD is that it allows for “hands-free” dialing of a car phone while driving.

ScanSoft is the world’s leading developer of speech recognition products. ScanSoft has accused its competitor, Voice Signal Technologies, Inc. (“VST”), of infringing at least Claims 1-6 of the ‘966 patent. VST sells speech recognition systems used in mobile phones for voice activated dialing in cellular networks. ScanSoft alleges not only that VST’s voice activated dialing products infringe the patent, but also that they incorporate trade secrets stolen from ScanSoft’s predecessor--in particular, trade secret software “source code” and algorithms used to control the various functions of the VAD systems.

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<sup>1</sup> Accompanying this memorandum are the various cited exhibits and the Declaration of Bruce Balentine Concerning Voice Activated Dialing Technology (“Balentine Decl.”). Mr. Balentine is an expert on speech recognition systems. ScanSoft has filed these documents electronically and has also filed courtesy copies in a bound appendix.

### THE CLAIM CONSTRUCTION DISPUTE

At a hearing on March 16, 2005, the Court directed the parties to identify disputed claim terms, to brief the conflicting definitions, and to argue the claim construction at a *Markman* hearing on June 17, 2005. In accordance with that order, the parties exchanged letters on March 30, 2005, identifying claim terms they contended might require judicial construction. VST, however, merely identified certain terms of Claim 1 (six in all) without stating their proposed definitions. Later, after the Court granted ScanSoft's motion for clarification, the parties exchanged proposed claim constructions by letters of April 25, 2005 (*See* Exhs. 2-3).

Throughout this case, and in its April 25th letter, VST has argued that the voice recognition mechanisms of the claimed inventions must be located in the central switch of the telecommunications system. (A "switch" refers to computer equipment that routes telephone calls to their destinations--*i.e.*, equipment that automatically does today what the switchboard operator of yesteryear did). VST's accused systems embed some or all of the voice recognition mechanism (*i.e.*, the "voice recognizer" recited in the patent claims) in the handset of a mobile phone. Thus, the primary dispute in this case is the location of the voice recognizer. As this Court will see, the asserted claims are directed to VAD methods that do not hinge on the location of the voice recognition apparatus within the system.

VST's April 25th letter recites various other terms of Claim 1 that VST contends require construction. But in reality, the parties dispute only two other terms: "command" and "collecting digits representing a phone number to be dialed." Any other apparent disputes fall away upon correct construction of these terms. VST does not identify any additional terms of Claims 2-6 that it contends require construction, so this memorandum will focus on Claim 1.

### THE ASSERTED PATENT CLAIMS

Claims 1-6 are presently at issue. Claim 1 is independent, and Claims 2-6 depend from Claim 1. ScanSoft may later assert additional claims after receiving discovery long-owed by VST, but for now will focus on the first six claims. Claim 1 is directed to certain speech recognition methods and reads as follows:

1. A speech recognition method for a mobile telecommunications system which includes a voice recognizer capable of recognizing commands and characters received from a mobile telecommunications user, the method comprising the steps of:

receiving a command from the mobile telecommunications user;

determining whether the command is a first or second command type;

if the command is the first command type, collecting digits representing a telephone number to be dialed received from the mobile telecommunications user; and

if the command is the second command type, determining whether a previously stored telephone number is associated with a keyword received from the mobile telecommunications user.

Claims 2-6 incorporate these limitations and state additional ones. For example, Claim 2 specifies that “keyword” must be a name. Claim 6 adds the step of “prompting” the user for certain information. VST has not disputed the meaning of any additional terms of these claims.

Most of the words of Claim 1 are plain English words and, as such, require little explanation. Certain terms, however, can be better understood after a tutorial on speech recognition technology. ScanSoft’s expert, Bruce Balentine, provides such a tutorial in his declaration. Mr. Balentine has been designing speech recognition applications, including VAD systems, for over 20 years and is an important author and lecturer in the speech recognition field. In his tutorial, Mr. Balentine explains how speech recognition systems in general, and VAD systems in particular, work. *See* Balentine Decl. at ¶¶ 16-53.

Of note, Mr. Balentine explains that a “voice recognizer,” also known in the industry as a “speech recognition engine” comprises software and hardware that translate sounds into digital signals that can then be analyzed and interpreted by the software. He also explains the ordinary meaning of other claim terms to those of ordinary skill in the art of speech technologies.

Mr. Balentine also discusses the state of the art circa 1992, when the inventors filed the original patent application in the family tree of the ‘966 patent. That discussion is helpful in understanding that a voice recognizer can be located in the mobile phone. In particular, before 1992, the trend in the industry was to develop increasingly sophisticated technologies in the lab for speech recognition. While these lab-based technologies were contributing to improvement of basic speech recognition systems, they rarely found their way into commercially viable products. The ‘966 patent, however, is aimed not so much at technologies (such as improved circuitry) but rather at commercial products implemented by software programs. In other words, the patent enables robust VAD systems that, for example, let mobile phone users voice-dial telephone numbers more effectively. A large part of that VAD process involves software routines that improve the interaction between the user and the voice recognizer, thus preventing or reducing the speech recognition errors that plagued earlier products. *See* Balentine Decl. at ¶¶ 54-61, 78.

Mr. Balentine also discusses particular aspects of the claimed inventions, such as “smart dialing.” Smart dialing refers to system intelligence (controlled through algorithms) that allows the system to recognize whether the user has spoken or dialed a complete telephone number--*i.e.*, consisting of the expected number of digits.<sup>2</sup> Claim 1 requires that the speech recognition

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<sup>2</sup> For example, a local call might consist of seven digits, while a long-distance call consists of eleven digits. The algorithm anticipates the expected number of digits that the user will speak based on the first numbers dialed (*e.g.*, 1-617). Conventional landline phone systems use similar algorithms to recognize when the complete number has been dialed. The user need not signal the network to indicate that the phone number is complete and can be collected.

system collect “digits representing a telephone number to be dialed.” In other words, the system collects the necessary number of digits for a complete telephone number. Such innovations in cell phone voice dialing systems make the dialog between the user and the voice recognizer more natural and less error-prone. *See* Balentine Decl. at ¶¶ 56-58, 71-72.

### **THE HISTORY OF THE ‘966 PATENT**

The ‘966 patent issued in 2002, based on an application filed in 2000. That application is a continuation of a series of applications dating back to a common ancestor application filed in April 1992. Several related patents also sprang from this series of applications. All of the patents share the same specification but vary in the scope of their claims. The first patent in the family tree, U.S. Pat. No. 5,297,183 (“the ‘183 patent”), issued in 1994. United States Pat. No. 5,659,597 (“the ‘597 patent”) issued in 1997, while U.S. Pat. No. 6,157,848 (“the ‘848 patent”) issued in December 2000. As will be demonstrated below, these related patents (Exhs. 4-6) help inform the reading and understanding of the claims of the ‘966 patent.

The ‘966 patent has a relatively simple prosecution history. Claim 1 began life as application claim 10. In response to an initial “office action” rejecting the pending claims, the inventors cancelled certain claims, added new ones, and filed a “terminal disclaimer” to avoid a double-patenting conflict with the earlier ‘848 patent. The inventors, however, never amended application claim 10 (which issued as Claim 1), whether to overcome prior art or otherwise. Nor did the PTO examiner require its amendment. Claim 1 thus survived in its original form. The examiner then allowed the claim over what he considered to be the closest prior art--the Ishii patent. As shown below, the examiner’s stated reasons for allowing the claims over Ishii implicitly recognize the breadth of Claim 1--*i.e.*, that the claim allows placement of the voice recognizer in the handset of a mobile phone. This prosecution history is attached as Exh. 7.

## THE PATENT SPECIFICATION

The specification of the '966 patent discloses various preferred VAD methods and routines, as illustrated in the flow charts (Figs. 5-11) and as described in the text of the patent. For example, Fig. 6a illustrates a preferred "Dial Routine" that a speech recognition system of the claims could use to allow mobile phone users to voice dial a telephone number. This routine is further described in Cols. 6-7 of the patent. The routine is controlled by software and algorithms running in the voice recognizer and user interface of the speech recognition system. None of these flow charts, however, suggests that the voice recognizer must be at the switch.

While the specification discloses these preferred embodiments in some detail, it is worth noting that the specification also contains several expansive statements showing that the inventors did not intend to confine the scope of the claimed inventions to the disclosed embodiments. Rather, they intended to open up the inventions to modification or variation. For example, the inventors make clear that the disclosed embodiments are "merely illustrative" or "exemplary" and may therefore be implemented "in a different manner" or modified to obtain different benefits and results from those disclosed. *See Exh. 1*, '966 Patent, Col. 2 at *ll.* 24-33. See also Col. 12, *ll.* 13-20 ("It should be appreciated that the specific embodiments disclosed above may be readily utilized as a basis for modifying or designing other structures . . . [that] do not depart from the spirit and scope of the invention"). As argued below, such expansive statements further show that the claims cannot be narrowed according to VST's plan.

## PROPOSED CLAIM CONSTRUCTION

The claim chart below shows ScanSoft's proposed construction of the claim terms that VST identified as possibly requiring judicial construction. But only some of these terms need to



be construed, either because the parties do not significantly differ on the other terms, or because the other disputes will be rendered moot by resolving the three main disputes listed above.

Claim Element	Construction
“A speech recognition method . . .”	A process for recognizing commands and characters spoken by a user
“ . . . a mobile telecommunications system which includes . . .”	“mobile telecommunications system” refers to “cellular, satellite [ <i>sic</i> ] and personal communications network environments.” Col. 3, ll. 46-48. A network environment includes all components of a network, from the central office switching equipment, if any, to the mobile units (e.g., telephones, PDAs, and other communications devices) used therein.
“ . . . a voice recognizer”	A “voice recognizer” comprises software and/or hardware used to process sounds spoken by a user.
“ . . . comprising the steps of”	“Comprising” means including but not limited to the recited steps.
“ . . . determining whether the command is a first or second command type”	A process performed by the speech recognition system to recognize whether the user has spoken a first or second command type so that the system can then perform the routines associated with the first or second command type.
“ . . . a first command type”	A “command” is a word, phrase, or numeric digit, alone or in combination with other words, phrases, and/or digits, used to direct the speech recognition system to take some action.  A “first command type” is one category of commands recognized by the speech recognition system.
“ . . . a second command type”	A “command” is a word, phrase, or numeric digit, alone or in combination with other words, phrases, and/or digits, used to direct the speech recognition system to take some action.  A “second command type” is another category of commands recognized by the speech recognition system.

“... collecting digits representing a telephone number ...”	The speech recognition system collects a series of numbers that the system recognizes as a complete telephone number.
“... determining whether a previously-stored telephone number is associated with a keyword ...”	The speech recognition system checks if there is a match between the keyword spoken by the user and a telephone number previously stored in the system and previously associated with a keyword. A “keyword” is any word, phrase, or numeric digit, or combination thereof, used to recall a previously-stored telephone number.

### ARGUMENT

Claims alone define patented inventions. Accordingly, claim construction begins and ends with the words of the claims. *Teleflex, Inc., v. Ficosa North America Corp.*, 299 F.3d 1313, 1324 (Fed. Cir. 2002); *see also Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996) (“First, we look to the words of the claims themselves, both asserted and nonasserted, to define the scope of the patented invention”). Courts must indulge a “heavy presumption” that the words of the claim carry their plain and ordinary meaning. *Teleflex*, 299 F.3d at 1325, quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

After forming an understanding of the words of the claims, a court may then consult the specification and prosecution history to confirm its understanding and to see whether the inventor has given special meaning to the terms (*i.e.*, has acted as his or her own “lexicographer”). *Vitronics*, 90 F.3d at 1582.

A disputed term, however, cannot be restricted to a particular embodiment in the specification or prosecution history unless the inventor has so defined the term or has disclaimed a broader scope. And that definition or disclaimer must be manifest or express—*i.e.*, a statement to the effect of “As used in this patent, the term ‘widget’ means only a three-piece widget.” *See, e.g., CCS Fitness*, 288 F.3d at 1367; *Teleflex Inc.*, 299 F.3d. at 1328.

Even if the specification discloses but one embodiment, the claim cannot be confined to that embodiment unless the inventor has disclaimed other embodiments. So long as the patent shows that an embodiment is merely “preferred,” then that embodiment cannot limit the claim. *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865 (Fed. Cir. 1988) (“References to a preferred embodiment . . . are not claim limitations”); *SRI Int’l v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1121 n. 14 (Fed. Cir. 1985) (“That a specification describes only one embodiment does not require that each claim be limited to that one embodiment”).

Finally, and particularly when a court is not familiar with the underlying technology, a court may hear expert testimony on the viewpoint of a person of ordinary skill in the art. In that instance, the expert serves as a translator of the technical jargon in the patent and tutor on the technology. *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999). Mr. Balentine provides such a tutorial in his declaration for just this purpose.

#### **I. THE VOICE RECOGNIZER MAY BE LOCATED IN THE MOBILE PHONE**

Claim 1 of the ‘966 patent is directed to a “speech recognition method for a mobile telecommunications system which includes a voice recognizer. . .” Claim 1 is thus a method claim and, as such, does not claim a particular machine or set of structures. For example, the claim is not directed to a particular configuration of circuitry for a voice recognizer apparatus. Rather, it claims certain steps that a speech recognition system performs to process spoken commands for voice activated dialing by mobile phone users. Balentine Decl. at ¶¶ 13, 62.

The main dispute in this case appears to be the location of the voice recognizer. The voice recognizer, however, can be located anywhere and is not restricted to the switch, as VST contends. The voice recognizer can just as easily be located in the handset of the mobile phone. The words of the claims at issue, unasserted claims of the ‘966 patent, and claims of other

patents in the family tree, all support this construction. The specification and prosecution history also show that the voice recognizer can be located anywhere.

**A. The Claim Wording Permits the Voice Recognizer to Be Located Anywhere**

Nothing in Claim 1 restricts the location of the voice recognizer. Words regarding location are simply absent from the claim. The claim merely provides for a voice recognizer without stating its location. In contrast, words of location appear in various unasserted claims. But these words may not be read into Claim 1, as VST would have this Court do.

**1. The Claim is Silent on the Location of the Voice Recognizer**

No words in Claim 1 state that the voice recognizer must be located at or near the telephone network switch. Indeed, the claim is silent on location. When a method claim is silent as to the location of a device employed in the method, then that device cannot be restricted to a particular location. *Interactive Gift Express, Inc. v. Compuserve Inc.*, 256 F.3d 1323, 1333 (Fed. Cir. 2001) (reversing narrow claim construction because “independent claims are silent regarding possible venues of a point of sale location”).

The term “voice recognizer” suggests no particular location. To one of ordinary skill, a “voice recognizer” is simply a component of a speech recognition system consisting of software running on computer processing circuitry. Balentine Decl. at ¶ 26. Nothing in this term requires that the voice recognizer be located in any particular setting. For example, the voice recognition circuitry could just as easily reside in a mobile unit (such as a cell phone), at the switching office, or in some other hardware serving the mobile communications system. Indeed, those of ordinary skill understood back in 1992 that the voice recognizer could be incorporated into a mobile unit, and, indeed, had been placed in portable cell phones in the prior art. Balentine Decl. at ¶¶ 60-61.

Moreover, the term “mobile telecommunications system” is broadly defined and includes the mobile phones or other personal communication devices used in the system. Specifically, the inventors expressly defined “mobile telecommunications system” to mean “cellular, satellite [*sic*] and personal communications network environments.” ‘966 Patent, col. 3 at *ll.* 46-48 (emphasis added). The appearance of this definition in the specification is an example of an inventor acting as his or her own lexicographer, meaning that the inventor has expressly supplied the controlling definition of a claim term. *See, e.g., 3M Innovative Properties Co. v. Avery Dennison Corp.*, 350 F.3d 1365, 1372 (Fed Cir. 2003) (district court erred when it ignored broad definition of disputed term expressly stated in the specification).

To one of ordinary skill in the art, network environments include all components of the network, from the switching equipment to the tower to the mobile communications devices, such as a car or cell phones. Balentine Decl. at ¶¶ 63-64, 74-77. The patent specification itself shows that a network environment necessarily includes the “mobile units” (e.g., cell phones) that the system connects to other phone users. *See, e.g.,* ‘966 Patent, col. 3, *ll.* 35-37. In other words, a network environment is not limited to just a switching office and antenna tower. Balentine Decl. at ¶¶ 63-64. Thus, “mobile telecommunications system” permits the placement of the voice recognizer anywhere within the system, including in the handsets of cell phones.<sup>3</sup>

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<sup>3</sup> In its letter of April 25th, VST italicized the words “*for a mobile telecommunications system*” in Claim 1, suggesting that VST intends to rely on these words to support its “at the switch” construction. But the meaning of “a speech recognition method for a mobile telecommunications system” is simply a method for enabling voice activated dialing by users of a telecommunications system. *See* Balentine Decl. at ¶ 74. Indeed, the specification itself states that, at least in one embodiment, “[t]he present invention facilitates the implementation of voice-dialing in a cellular telephone or other personal communications network environment.” ‘966 patent, Col. 5 at *ll.* 42-44. In other words, the claimed method is adapted so that it can be used within a network by mobile phone customers of a network.

## 2. Words of Location, Seen in Other Claims, Cannot Be Read into Claim 1

The words “located at the switch,” “connected to the switch,” or equivalent formulations, do not appear in Claim 1. VST, however, would have this Court insert such words into the claim from thin air. There is no basis in the law for doing so. *See Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1325 (Fed. Cir. 2003) (“courts must take extreme care when ascertaining the proper scope of the claims, lest they simultaneously import into the claims limitations that were unintended by the patentee”); *E.I. Du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (improper to add “extraneous” limitations to a claim). Indeed, the Supreme Court prohibited such judicial redrafting of claims 110 years ago:

[W]e know of no principle of law which would authorize us to read into a claim an element which is not present . . . The difficulty is that if we once begin to include elements not mentioned in the claim in order to limit such claim . . . , we should never know where to stop.

*McCarty v. Lehigh Val. R.R.*, 160 U.S. 110, 116 (1895).

The inventors’ intention not to limit the location of the voice recognizer can be seen most clearly in the contrast between Claim 1, which contains no words restricting location, and various unasserted claims, which do. For example, Claim 8 specifies that “the speech recognition apparatus is connected to the mobile telecommunications switch as an external peripheral.” Likewise, Claim 11 provides that “the speech recognition apparatus is connected to a non-mobile telecommunications switch . . .” Under the doctrine of claim differentiation, these express limitations in dependent claims cannot be “read into” broader independent claims like Claim 1. *Karlin Tech. Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971-72 (Fed. Cir. 1999); *see also Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) (“As this court has frequently stated, the presence of a dependent claim that adds a particular limitation raises a presumption that the limitation in question is not found in the independent claim”).

Claims in related patents also demonstrate this contrast and, therefore, reveal the inventors' intent. *See, e.g., ResQNet.com, Inc. v. Lansa, Inc.*, 346 F.3d 1374, 1382-1383 (Fed. Cir. 2003) (claim of continuation-in-part patent contained different wording from claim of earlier patent in the family and thus would not be limited to the more restrictive scope of the earlier claim). Specifically, in contrast to Claim 1 of the '966 patent, claims of earlier patents in the family tree include express limitations of location.

For example, Claim 1 of the '183 patent, which was the first to issue from the original April 1992 application, recites "a voice recognition system located at the mobile telecommunications switching office." **Exh. 4** (emphasis added). That is certainly a clear expression of location not found in Claim 1 of the '966 patent. Likewise, Claim 1 of the '848 patent, which issued closest in time to the '966 patent, recites "a voice recognition system located at the non-wireline telecommunications switching office." **Exh. 6** (emphasis added). These claims show that the inventors were certainly capable of specifying the location of the voice recognizer, if so inclined, and chose not to do so when it came to Claims 1-6 of the '966 patent. Accordingly, the contrast between these unasserted claims and the asserted claims shows that the voice recognizer may be located in, *e.g.*, the handset of the mobile phone.

#### **B. The Specification Does Not Restrict Location of the Voice Recognizer**

Nothing in the specification requires that the voice recognizer be located at the switch or in any other locale. Indeed, the inventors do not disclaim in the specification any embodiment in which the voice recognition circuitry is embedded in the mobile phone itself. Nor do the inventors expressly define the term "voice recognizer" to be located at the switch. This lack of an express disclaimer or limiting definition is instructive and shows that the inventors did not intend to restrict all possible embodiments allowed by the plain wording of the claims. *See, e.g.*,

*Akamai Technologies, Inc. v. Cable & Wireless Internet Services, Inc.*, 344 F.3d 1186, 1194 (Fed. Cir. 2003) (rejecting argument that claimed software be located in a particular computer server because nothing in the specification shows that the inventor “unequivocally . . . imparted a novel meaning to the term”).

The specification does show embodiments in which the speech recognition system is located at or near the telecommunication switch. But the specification makes clear that locating the voice recognizer at the switch is a preferred embodiment, not the only one:

Referring now to FIG. 2, a block diagram shows the cellular telephone network 10 with the Speech Recognition System 20 interconnected internally to the MTX. This is the preferred embodiment of the invention.

Col. 4, *ll.* 13-16 (emphasis added). *See also* Col. 3, *ll.* 12-17 (“Although the following description is specifically related to use of the Speech Recognition System at or in conjunction with an MTX . . .”)

The inventors made it clear throughout the specification that the disclosed embodiments are “merely illustrative” and may be applied “in a different manner” or modified to achieve other benefits not discussed in the specification. Col. 2 at *ll.* 24-33. The inventors were thus careful to avoid disclaimers or narrowing definitions. Indeed, to prevent any confusion, and to make sure that the nothing in the specification could serve as a disclaimer of claim scope, the inventors ended the written description portion of the specification (right before the claims) with a statement that such modifications would not depart from the scope of the patented inventions:

It should be appreciated by those skilled in the art that the specific embodiments disclosed above may be readily utilized as a basis for modifying or designing other structures for carrying out the same purposes of the present invention. It should be realized by those skilled in the art that such equivalent constructions do not depart from the spirit and scope of the invention as set forth in the appended claims.

Col. 12, *ll.* 13-20.



Such permissive statements cannot be ignored. These statements show the inventors' clear intent to avoid limiting the claims to the disclosed embodiments. *See Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1345 (Fed. Cir. 2001) (giving credence to statement in the specification that "[t]he invention is capable of other embodiments and of being practiced or carried out in various ways" in holding that claims were not limited to preferred embodiments).<sup>4</sup>

**C. The Prosecution History Shows that the PTO Examiner Interpreted Claim 1 to Allow Placing the Voice Recognizer in the Mobile Phone**

The prosecution history of the '966 patent shows that the PTO examiner himself recognized that Claim 1 allows the voice recognizer to be placed in the mobile phone. Because a PTO examiner is considered to have the understanding of one of ordinary skill, his or her interpretation of the claims will be given some deference. *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1359 (Fed. Cir. 1984) (deference owed to examiners, "who are assumed to have some expertise in interpreting the references and to be familiar from their work with the level of skill in the art")

Specifically, in the Notice of Allowance stating the reasons for issuing the claims of the '966 patent over the prior art, the PTO examiner cited the Ishii patent. The examiner noted that Ishii disclosed most limitations of then-pending application claims 10, 16, and 39 (which issued as independent Claims 1, 20, and 26 of the '966 patent) except for a second command type:

. . . the Ishii reference (5,182,765) disclosed a speech recognition method for a telecommunication system including a voice recognizer in which the user inputs

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<sup>4</sup> In the "Brief Summary of the Invention," the inventors state certain objects of the invention and advantages to be achieved by placing the speech recognition system at the MTX switch. *See* Col. 1 at *ll.* 42 *et seq.* But patent law is clear that such statements do not require the claims to implement all of the recited objects or advantages. *See, e.g., Liebel-Flarsheim Co.*, 358 F.3d at 908 ("The fact that a patent asserts that an invention achieves several objectives does not require that each of the claims be construed as limited to structures that are capable of achieving all of the objectives"). In this case, the inventors made sure of this result by stating that "these objectives should be construed to be merely illustrative" and can be modified. Col. 2 at *ll.* 24-33.

the dial number as a command type with his own voice through a microphone, a CPU collects digits representing a telephone number to be dialed, and a speech recognizer determines whether or not there exists the dialed number information involved.

This reference does not specifically disclose another command type wherein the user inputs a keyword or code by his own voice and the system will determine whether a previously stored telephone number is associated with the keyword or code received by the user.

**Exh. 7**, Prosecution History of '966 Patent at SS 00029.

Tellingly, Ishii discloses a speech recognition system embedded in a mobile phone. Balentine Decl. at ¶ 61. Indeed, Ishii states that “FIG. 1 shows a circuit arrangement of a speech recognition system according to one embodiment of this invention as being applied to a wireless telephone apparatus.” **Exh. 8**, Ishii, col. 2 at ll. 46-49 (emphasis added).

Because the examiner indicated that the closest prior art reference was one in which the speech recognition circuitry was in the handset of a wireless telephone, he implicitly acknowledged that Claim 1 of the '966 patent does not limit the location of the voice recognizer. In other words, had the examiner read Claim 1 (then-pending as application claim 10) as requiring that the voice recognizer be located at the switch, he could have distinguished Ishii on that basis. Or the examiner could have required an amendment making this supposed distinction over the prior art clear and express in the claim. Certainly the inventors never distinguished the '966 patent claims over the prior art based on the location of the voice recognizer.

That the examiner neither distinguished Ishii on the basis of the voice recognizer's location, nor required a clarifying amendment to legislate this distinction, shows that he recognized that the claims allow for placement of the voice recognizer in the mobile phone. *See, e.g., Rexnord*, 274 F.3d at 1347 (“if the examiner wanted to hinge patentability” on a certain claim scope, “he would have said so, and required a specific amendment to reflect” the narrower

scope). Thus, the Ishii citation supports the plain wording of Claim 1. *Cf. Kumar v. Ovonic Battery Co.*, 351 F.3d 1364, 1368 (Fed. Cir. 2003) (prior art reference cited by examiner helped define disputed term, showing it was broader than construction argued by accused infringer).

## II. “COMMAND” INCLUDES ANY COMBINATION OF WORDS OR NUMBERS

The term “command” means a word, phrase, number, or combination thereof, used to direct the speech recognition system to take some action. The term is not expressly defined in the specification, but to one of ordinary skill, a command could be a single word, like “call,” or a combination of words, like “call home” or “call 617-443-9292.” Balentine Decl. at ¶¶ 79-80. The claims place no limit on the words or phrases that can be used as commands. Thus, the word “call” could be used to invoke a number dialing routine (*e.g.*, collecting digits from the user representing a phone number to be dialed) or to invoke a keyword dialing routine.

The claim does recite a “first or second command type,” but it otherwise does not dictate what the words used for such command must be. In contrast, some claims of the earlier patents in the family tree do specify the word required for a particular command type. For example, Claim 7 of the ‘183 patent requires that “the first spoken command is Dial, the second spoken command is Send and the third spoken command is Verify.” **Exh. 4**, 183 patent. As argued in Section I, such limitations cannot be read into Claim 1 of the ‘966 patent, where they are absent.

The inventors made sure that the commands would not be limited to any particular words or phrases but could be adapted as the system designers (*i.e.*, those of ordinary skill) saw fit:

It should be appreciated that the specific names of the commands are merely exemplary and should not be taken by way of limitation. Other suitable command names are of course suitable.

Col. 10, *ll.* 29-32.

Thus, a system designer, reading this patent, could adapt the command protocol to address any marketing, human factors, or other objectives he or she had when programming a speech recognition product according to the claims.

VST appears to contend in its April 25th letter that there is some temporal distinction between a “command” and the keyword or digits used for voice dialing. But the claim requires no such temporal distinction. In other words, a user may say a “first command type” as follows: “Call 1-617-443-9292.” The system would then collect the digits spoken as part of the command. The claim does not require, for instance, that the word “call” be separate from the digits. Nor would the claim even require a word like “call” or dial.” *See* Balentine Decl. at ¶ 79.

Alternatively, the user might speak the command “call,” and then be prompted by the system to speak the digits (or a keyword, for that matter). This protocol is certainly a preferred embodiment disclosed in the specification. *See, e.g.,* Col. 6 at ll. 23 et seq. (describing the preferred “Dial” routine, as schematically illustrated in Fig. 6). But as argued in Section I above, the claims cannot be limited to the preferred embodiments, especially given the inventors’ many expansive statements permitting modification of the “merely illustrative” examples.

Nothing in the terms “first or second command type” requires a temporal distinction between the portions of a command. In contrast, dependent Claim 6 does recite “the step of prompting the mobile telecommunications user to enter information needed for the first or the second command type” and thus does require a temporal distinction. But as seen in Section I, under the doctrine of claim differentiation, this additional step cannot be read into Claim 1.

Thus, the system may determine whether the command is a first or second type merely from the initial words spoken by the user, without first prompting the user for additional information. The system could also distinguish between first and second command types, such

as “Call 617-443-9292 and “Call Home,” even though the first word or sound is the same. Claim 1 thus permits the necessary information to be spoken as part of a command (e.g., “Call Home”) or as part of a second step after a system prompt (e.g., the user says “call,” the system prompts, “name please,” and the user says “James”).<sup>5</sup>

### III. THE CLAIMED METHOD INCLUDES “SMART DIALING”

The phrase “collecting digits representing a telephone number to be dialed,” incorporates the concept of “smart dialing” that Mr. Balentine discusses in his declaration. *See* Balentine Decl. at ¶¶ 56-58, 71-72. Smart dialing means that the speech recognition system has some artificial intelligence (provided by algorithms in the computer source code) that allows the system to determine automatically whether the user has spoken a complete telephone number. Mr. Balentine says that the phone companies typically use such algorithms to determine whether to expect seven or eleven digits in the string dialed by a user of a land-line phone. *Id.*

Here, the phrase “representing a telephone number” must have meaning and cannot be read out of the claim, as VST appears to do in its proposed claim construction. *See Texas Instruments Inc. v. U.S. Int’l Trade Comm’n*, 988 F.2d 1165, 1171 (every word in a claim has meaning). The system does not merely collect digits without determining whether the digits represent a complete phone number. For example, the claim could have been written to say, e.g., “collecting digits to be dialed,” and in such instance, the system would collect digits forever, if the user kept speaking them.

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<sup>5</sup> Nor do the terms “first” and “second” impose temporal limitation on the claim--i.e., a separation between the first word and following words of the command. *See 3M Innovative Properties*, 350 F.3d at 1371 (“The use of the terms “first” and “second” is a common patent-law convention to distinguish between repeated instances of an element or limitation . . . and should not be and of itself impose a serial or temporal limitation onto claim 1”).

The patent illustrates this smart dialing concept in a preferred method--the "Dial" routine shown in Figure 6a and described in Columns 6-7. In this preferred method, the system looks for the "last digit in expected string." *See* '966 patent, Fig. 6a at Step 148 and Col. 7 at ll. 3-11 ("A test is then made at step 148 to determine if the digit collected is the last digit expected in the string. If not, the digit is saved in a string buffer at step 149 and the routine returns to step 132 to collect another digit") (emphasis added).

In other words, a preferred embodiment uses a "last expected digit" algorithm to determine whether the digits represent a telephone number. If not, the system is "smart" enough to prompt for the rest of the number. Likewise, a user need not signal the system that he or she has spoken the last digit of the number. This value of this smart dialing is that it significantly reduces recognition errors, such as those that plagued prior art VAD systems. *See* Balentine Decl. at ¶¶ 49-52, 56, 71-72.

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